CIVIL QUALITY CONSULTANTS & ENGINEERS

(Buildings Geo-Tech & Highway Materials Testing Laboratory)
An ISO 9001: 2008 Certified Company

JAS-ANZ
ISO 9001:2000 CERTIFIED

Job No.: CQCE/BBMP/LR/W.No.14/2017-18 Date : 06.12.2017

TEST REPORT ON FINE AGGREGATES (SAND)
IS 383-1970 (RA- 2002)

Client : **Executive Engineer,** Dasarahalli Division, BBMP, Bangalore.
Agency : **Sri. L. Raghunandan,** Contractor, Bangalore.
Name of Work : Improvements to roads and drains at 18th A cross Bagalagunte in Ward No. 14, BBMP, Bangalore.
Reference : EE/DD/WO/ /2017-18 Dated

Date of Testing : 06.12.2017

Material : Sand Total Wt. of Aggregates **2000**

Is Sieve Size in mm	Weight Retained (gm)	Retained Weight in %	Cumulative Retained Weight in %	Cumulative Weight Passing in %	Spec.Limits For Zone-II
10	0	0	0	100	100
4.75	83	4.15	4.15	95.9	90-100
2.36	176	8.80	12.95	87.1	75-100
1.18	168	8.40	21.35	78.7	55-90
600 Micron	435	21.75	43.10	56.9	35-59
300 Micron	612	30.60	73.70	26.3	8-30
150 Micron	393	19.65	93.35	6.7	0-10

Note:
1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory.
3. Any Query regarding the report must be reported reported within 15days from the date of testing.

For CIVIL QUALITY CONSULTANTS & ENGINEERS

Authorised Signatory

Office : # 39, 5TH Cr[illegible], Javaregowdana Doddi, Rajarajeshwarinagar, Bangalore-560098
Laboratory : # 133, Bhuvaneshwarinagar, Dodda Basti Main Road, Bangalore - 560 056.
e-mail:civilqualityconsultants@gmail.com Ph: 8553518550/9886998316

CIVIL QUALITY CONSULTANTS & ENGINEERS

(Buildings Geo-Tech & Highway Materials Testing Laboratory)
An ISO 9001: 2008 Certified Company

JAS-ANZ
ISO 9001:2000 CERTIFIED

Job No.: CQCE/BBMP/LR/W.No.14/2017-18 Date : 06.12.2017

TEST REPORT ON COARSE AGGREGATES
IS 383-1970 (RA- 2002)

Client : **Executive Engineer,** Dasarahalli Division, BBMP, Bangalore.
Agency : **Sri. L. Raghunandan,** Contractor, Bangalore.
Name of Work : Improvements to roads and drains at 18th A cross Bagalagunte in Ward No. 14, BBMP, Bangalore.
Reference : EE/DD/WO/ /2017-18 Dated
Date of Testing : 06.12.2017
Material : 20mm Aggregates

Total Wt. of Aggregates in gms= **5000**

Is Sieve Size in mm	Weight Retained (gm)	Retained Weight in %	Cumulative Retained Weight in %	Cumulative Weight Passing in %	Spec.Limits
40	0	0	0	100	100
20	168	3.4	3.4	96.6	95-100
10	2876	57.5	60.9	39.1	25-55
4.75	1648	33.0	93.8	6.2	0-10

Note:

Note:

1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory.
3. Any Query regarding the report must be reported reported within 15days from the date of testing.

For CIVIL QUALITY CONSULTANTS & ENGINEERS

Authorised Signatory

Office : # 39, 5TH Cross, Javaregowdana Doddi, Rajarajeshwarinagar, Bangalore-560098
Laboratory : # 133, Bhuvaneshwarinagar, Dodda Basti Main Road, Bangalore - 560 056.
e-mail:civilqualityconsultants@gmail.com Ph: 8553518550/9886998316

CIVIL QUALITY CONSULTANTS & ENGINEERS

(Buildings Geo-Tech & Highway Materials Testing Laboratory)
An ISO 9001: 2008 Certified Company

JAS-ANZ
ISO 9001:2000 CERTIFIED

Job No.: CQCE/BBMP/LR/W.No.14/2017-18 18.12.2017

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Client : **Executive Engineer,** Dasarahalli Division, BBMP, Bangalore.

Agency : **Sri. L. Raghunandan,** Contractor, Bangalore.

Name of the work : Improvements to roads and drains at 18th A cross Bagalagunte in Ward No. 14, BBMP, Bangalore.

Reference : EE/DD/WO/ /2017-18 Dated

Sample ID : Cement Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

Grade of Concrete : M_{20}

Compressive Strength as on : 7th day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	11.12.2017	18.12.2017	8.158	354.2	15.74
2	11.12.2017	18.12.2017	8.176	326.8	14.52
3	11.12.2017	18.12.2017	8.184	338.7	15.05

Note:

1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory.
3. Any Query regarding the report must be reported within 15 days from the date of testing.

For CIVIL QUALITY CONSULTANTS & ENGINEERS

Authorised Signatory

Office : # 39, 5TH Cross, Javaregowdana Doddi, Rajarajeshwarinagar, Bangalore-560098
Laboratory : # 133, Bhuvaneshwarinagar, Dodda Basti Main Road, Bangalore - 560 056.
e-mail:civilqualityconsultants@gmail.com Ph: 8553518550/9886998316

CIVIL QUALITY CONSULTANTS & ENGINEERS

(Buildings Geo-Tech & Highway Materials Testing Laboratory)
An ISO 9001: 2008 Certified Company

JAS-ANZ
ISO 9001:2000 CERTIFIED

Job No.: CQCE/BBMP/LR/W.No.14/2017-18

18.12.2017

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Client : **Executive Engineer,** Dasarahalli Division, BBMP, Bangalore.

Agency : **Sri. L. Raghunandan,** Contractor, Bangalore.

Name of the work : Improvements to roads and drains at 18th A cross Bagalagunte in Ward No. 14, BBMP, Bangalore.

Reference : EE/DD/WO/ /2017-18 Dated

Sample ID : Cement Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

Grade of Concrete : M_{20}

Compressive Strength as on : 7th day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	11.12.2017	18.12.2017	8.166	352.3	15.66
2	11.12.2017	18.12.2017	8.148	326.1	14.49
3	11.12.2017	18.12.2017	8.157	332.8	14.79

Note:

1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory.
3. Any Query regarding the report must be reported within 15 days from the date of testing.

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ದಾಸರಹಳ್ಳಿ ಉಪ-ವಿಭಾಗ
ಬಾಗಲಗುಂಟೆ, ಬಿಬಿಎಂಪಿ
ಬೆಂಗಳೂರು

For CIVIL QUALITY CONSULTANTS & ENGINEERS

Authorised Signatory

Office : # 39, 5TH Cross, Javaregowdana Doddi, Rajarajeshwarinagar, Bangalore-560098
Laboratory : # 133, Bhuvaneshwarinagar, Dodda Basti Main Road, Bangalore - 560 056.
e-mail:civilqualityconsultants@gmail.com Ph: 8553518550/9886998316

CIVIL QUALITY CONSULTANTS & ENGINEERS

(Buildings Geo-Tech & Highway Materials Testing Laboratory)
An ISO 9001: 2008 Certified Company

JAS-ANZ
ISO 9001:2000 CERTIFIED

Job No.: CQCE/BBMP/LR/W.No.14/2017-18 Date : 20.12.2017

GRADATION FOR WMM
MORTH TABLE-400-11

Client : **Executive Engineer,** Dasarahalli Division, BBMP, Bangalore.
Agency : **Sri. L. Raghunandan,** Contractor, Bangalore.
Name of Work : Improvements to roads and drains at 18th A cross Bagalagunte in Ward No. 14, BBMP, Bangalore.
Reference : EE/DD/WO/ /2017-18 Dated
Date of Testing : 20.12.2017
Material Type : Wet Mix Macadam

Oven Dry.Wt 12581

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	512	512	4.1	95.9	95-100
22.4	4246	4758	37.8	62.2	60-80
11.2	2236	6994	55.6	44.4	40-60
4.75	1968	8962	71.2	28.8	25-40
2.36	1236	10198	81.1	18.9	15-30
0.600	1147	11345	90.2	9.8	8-22
0.075	906	12251	97.4	2.6	0-8

Note:

1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory.
3. Any Query regarding the report must be reported within 90 days from the date of testing.

For CIVIL QUALITY CONSULTANTS & ENGINEERS

Authorised Signatory

Office : # 39, 5TH Cross, Javaregowdana Doddi, Rajarajeshwarinagar, Bangalore-560098
Laboratory : # 133, Bhuvaneshwarinagar, Dodda Basti Main Road, Bangalore - 560 056.
e-mail:civilqualityconsultants@gmail.com Ph: 8553518550/9886998316

CIVIL QUALITY CONSULTANTS & ENGINEERS

(Buildings Geo-Tech & Highway Materials Testing Laboratory)
An ISO 9001: 2008 Certified Company

JAS-ANZ
ISO 9001:2000 CERTIFIED

Job No.: CQCE/BBMP/LR/W.No.14/2017-18 **Date:** 20.12.2017

Aggregate Impact Value
IS: 2386 Part IV

Client	**Executive Engineer,** Dasarahalli Division, BBMP, Bangalore.
Agency	**Sri. L. Raghunandan,** Contractor, Bangalore.
Name of the Work	Improvements to roads and drains at 18th A cross Bagalagunte in Ward No. 14, BBMP, Bangalore.
Reference	EE/DD/WO/ /2017-18 Dated
Type of Mix	Wet Mix macadam
Date of Testing	20.12.2017

Sl No.	Details	Trial No.			Average
		1	2	3	
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	387	384	381	
2	Weight of agregate passing 2.36 mm sieve after the test = W_2 g	91	89	88	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	296	295	293	
4	Aggregate Impact value = percent fines 100* (W_2/W_1)%	23.51	23.18	23.10	**23.26**

Comments:

→ Maximum allowable Aggregate Impact value for Wet mix Macadam is 30%

Note:

→ This test report should not be reproduced except in full, without written approval of the laboratory
→ The results indicated above are based on the tests carried out on the samples received in the laboratory
→ Any Query regarding the report must be reported within 90 days from the date of testing.

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರ
ಟಿ.ದಾಸರಹಳ್ಳಿ ಉಪ-ವಿಭಾಗ
ಬಾಗಲಗುಂಟೆ, ಬಿಬಿಎಂಪಿ
ಬೆಂಗಳೂರು

For CIVIL QUALITY CONSULTANTS & ENGINEERS

Authorised Signatory

CIVIL QUALITY CONSULTANTS & ENGINEERS

(Buildings Geo-Tech & Highway Materials Testing Laboratory)
An ISO 9001: 2008 Certified Company

JAS-ANZ
ISO 9001:2000 CERTIFIED

Job No.: CQCE/BBMP/LR/W.No.14/2017-18 22.12.2017

Aggregate Impact Value

IS: 2386 Part IV

Client	**Executive Engineer,** Dasarahalli Division, BBMP, Bangalore.
Agency	**Sri. L. Raghunandan,** Contractor, Bangalore.
Name of the Work	Improvements to roads and drains at 18th A cross Bagalagunte in Ward No. 14, BBMP, Bangalore.
Reference	EE/DD/WO/ /2017-18 Dated
Source / Location	Hotmix Plant, Bangalore
Type of Mix	Bituminous Macadam
Date of Testing	22.12.2017

Sl No.	Details	Trial No. 1	Trial No. 2	Trial No. 3	Average
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	378	383	381	
2	Weight of agregate passing 2.36 mm sieve after the test = W_2 g	89	92	94	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	289	291	287	
4	Aggregate Impact value = percent fines	23.54	24.02	24.67	
	100* (W_2/W_1)%				24.08

Comments:

→ Maximum allowable Aggregate Impact value for Bituminous Macadam is 30%

Note:

→ This test report should not be reproduced except in full, without written approval of the laboratory
→ The results indicated above are based on the tests carried out on the samples recieved in the laboratory
→ Any Query regarding the report must be reported within 15 days from the date of testing

For CIVIL QUALITY CONSULTANTS & ENGINEERS

Authorised Signatory

Office : # 39, 5TH Cross, Javaregowdana Doddi, Rajarajeshwarinagar, Bangalore-560098
Laboratory : # 133, Bhuvaneshwarinagar, Dodda Basti Main Road, Bangalore - 560 056.
e-mail:civilqualityconsultants@gmail.com Ph: 8553518550/9886998316

CIVIL QUALITY CONSULTANTS & ENGINEERS

(Buildings Geo-Tech & Highway Materials Testing Laboratory)
An ISO 9001: 2008 Certified Company

JAS-ANZ
ISO 9001:2000 CERTIFIED

Job No.: CQCE/BBMP/LR/W.No.14/2017-18 23.12.2017

BITUMEN CONTENT AND GRADATION DETERMINATION OF BITUMINOUS MACADAM MIX

AASHTO T 164 & AASHTO T 30

CLIENT	**Executive Engineer,** Dasarahalli Division, BBMP, Bangalore.
AGENCY	**Sri. L. Raghunandan,** Contractor, Bangalore.
NAME OF WORK	Improvements to roads and drains at 18th A cross Bagalagunte in Ward No. 14, BBMP, Bangalore.
REFERENCe	EE/DD/WO/ /2017-18 Dated
DATE OF TESTING	23.12.2017

BITUMEN CONTENT DETERMINATION

Description	Trail 1	Trail 2
1. Weight of Mixture before Test, g	500	500
2. Weight of Mixture after Test, g	483	482.5
3. Weight of Asphalt and Mineral matter Extracted, g	-	-
4. Weight of Mineral Matter, g.	-	-
5. Weight of Ash, g		
6. Weight of Bitumen Extracted, g. (corrected)	17	17.50
7. Bitumen content in %	3.40	3.50
8. Average	3.45	

GRADATION AFTER EXTRACTION

SIEVE SIZE	Trail 1				JOBMIX
mm	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	Gradation
26.5	0	0	0	100	100
19	32.4	6.71	6.71	93.29	90-100
13.2	163.4	33.83	40.54	59.46	56-88
4.75	172.5	35.71	76.25	23.75	16-36
2.36	46.3	9.59	85.84	14.16	4-19
0.3	33.6	6.96	92.80	7.20	2-10
0.075	5.3	1.10	93.89	6.11	0-8

SIEVE SIZE	Trail 2				JOBMIX
mm	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	Gradation
26.5	0	0	0	100	100
19	23.6	4.72	4.72	95.28	90-100
13.2	152.4	30.48	35.20	64.80	56-88
4.75	178.6	35.72	70.92	29.08	16-36
2.36	78.8	15.76	86.68	13.32	4-19
0.3	35.8	7.16	93.84	6.16	2-10
0.075	5.7	1.14	94.98	5.02	0-8

Note:

→ This test report should not be reproduced except in full, without written approval of the laboratory
→ The results indicated above are based on the tests carried out on the samples received in the laboratory
→ Any Query regarding the report must be reported within 15 days from the date of testing

For CIVIL QUALITY CONSULTANTS & ENGINEERS

Authorised Signatory

Office : # 39, 5TH Cross, Javaregowdana Doddi, Rajarajeshwarinagar, Bangalore-560098
Laboratory : # 133, Bhuvaneshwarinagar, Dodda Basti Main Road, Bangalore - 560 056.
e-mail:civilqualityconsultants@gmail.com Ph: 8553518550/9886998316